FULL SPEED AHEAD

FIRST-YEAR REPORT
OF THE COUNCIL
FOR AN
ONTARIO
INFORMATION
INFRASTRUCTURE

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PRESENTED TO
THE MINISTER OF
ECONOMIC
DEVELOPMENT
AND TRADE

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JUNE 1994

Council for an Ontario Information Infrastructure

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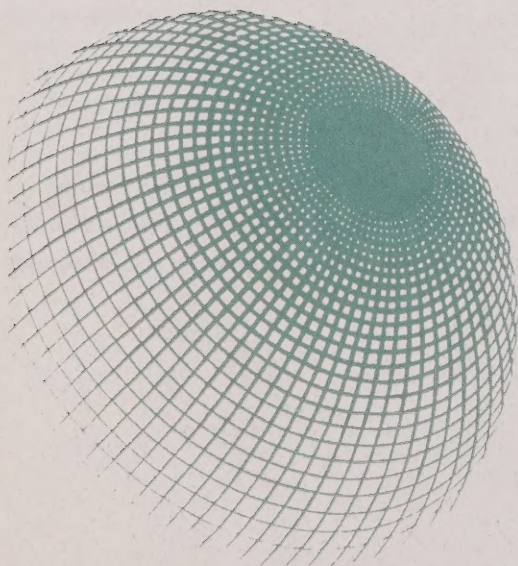THE MINISTER OF

ECONOMIC DEVELOPMENT

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Executive Summary

Premier Bob Rae and Minister of Economic Development and Trade, Frances Lankin, announced the creation of the Council for an Ontario Information Infrastructure in February 1993, and gave the Council the job of turning Ontario's telecommunications strategy into action. This is a report on year one of the Council's work.

Formation of the Council was a principal recommendation of the Advisory Committee on a Telecommunications Strategy for Ontario, which reported in August 1992. The Advisory Committee stressed that the province was at a turning point: either we sharply accelerate our progress on the information highway, or we fall dramatically behind.

We, on the Council, believe that Ontario has now shifted gears. It's full speed ahead to the information society.

The Council itself has both responded and helped to reinforce the dynamic environment that is now propelling Ontario forward. We have reviewed and endorsed 16 exciting user-based projects that hook into and accelerate development of Ontario's emerging "network of networks " – projects involving total provincial government funding of over $15.4 million, leveraging further investment of $24.8 million at the initial stages of the projects.

More important than the quantity of projects, however, is their quality. We are confident the initiatives we have recommended will generate lessons that can be applied widely in other sectors and communities across Ontario.

While arranging the right funding at the right time can be critical, we see our role in government funding programs as a narrow measure of our impact. We view our primary mission as facilitating, leading, bringing partners together and serving as a catalyst for change. In all, the Council and the government staff who work with us have been involved in more than 100 projects to strengthen Ontario's information infrastructure.

Part of our job on Council is to continually test our relevance. We realize that the convergence of telecommunications, computing and content is happening even faster than anticipated. We are charting our future directions with this trend in mind.

In the year ahead, we intend to reassess our relationship with the telecommunications sector, capitalize on the links between telecom and computing, update our vision of basic service, examine more deeply the social implications of technology, and launch a public awareness campaign to help people better understand the information infrastructure and its possibilities. We will also continue to encourage the creation of information networks and advise government on becoming a model user of technology.

In our view, the sense of urgency captured by the former Advisory Committee remains undiminished. Ontario is moving, but so is the rest of the world. We believe our first year of working together as a Council has produced a solid foundation for meeting the challenges ahead.

The Council's Roots

On February 12, 1993, Premier Bob Rae and Minister of Economic Development and Trade, Frances Lankin, announced a comprehensive telecommunications strategy for Ontario. The strategy included the creation of the Council for an Ontario Information Infrastructure to turn it into action. This is a report on the first year of the Council's work.

The roots of the Council go back to the Advisory Committee on a Telecommunications Strategy for the Province of Ontario, a 22-member group that convened for four months in 1992. The Advisory Committee organized a process of codetermination that involved more than 100 stakeholders in planning the provincial strategy through subcommittees, round tables and written briefs.

The advisory group and later the Council were established because the provincial government recognized a pivotal role for telecommunications in Ontario's economic renewal and social progress.

In economic terms, the government saw telecommunications as making an impact in two ways:

1. as an industrial sector whose potential for creating wealth surpasses any invention of the industrial age
2. as an enabler generating new opportunities in all industries.

Since 1990, Ontario has not merely gone through a recession, it has been restructuring. A new economy has been born. And just as the highway system was the infrastructure of the old economy, telecommunications is the infrastructure of the new economy. A statistical profile of this new infrastructure appears at the end of this report.

In terms of quality of life, the government observed the transformational effects of telecommunications all around us. Computer links with factories and offices now enable people to avoid commuting and work at home. TV news has come to mean not what has happened but what is happening. Advanced networks extend the reach of learning opportunities, and improve health care by transporting medical images at the speed of an electron. Modern communications is changing the way we shop, do our banking, use the library or deal with government. The list of potential transformations is limited only by our imagination.

Ontario has shown leadership in North America in undertaking a telecommunications strategy. This is a credit to the provincial government, which had the foresight to raise these issues for public debate well before the current wave of media interest. Today, Ontario is in a much better position to enter the 21st century than we were two years ago. This report will explain why.

Visions and Goals

The Advisory Committee presented its report, Telecommunications – Enabling Ontario's Future, in August 1992. The document attracted attention across Canada and internationally. Nine thousand copies were distributed.

The government considered the report's initiatives as high priority and in February 1993, announced its acceptance of the proposed Telecommunications Strategy for Ontario. In particular, the government endorsed the Advisory Committee's vision that "enabled by telecommunications, Ontario – and Canada – will be the best place in the world to live, work, learn and do business."

To achieve this vision, the committee recommended and the government adopted four goals for the province:

1. promote the building of a telecommunications infrastructure that enables economic growth, competitiveness and lasting employment in high-paying, high-value jobs
2. shape a climate in which our dynamic telecommunications sector – including equipment manufacturing, carriers, software and services, and research and development – can continue to grow
3. make sure that telecommunications enhances the quality of life for all the people of Ontario
4. ensure the strategic application of telecommunications by the Ontario government.

The ultimate objective behind these goals is to create a dynamic, innovative and globally competitive Ontario information infrastructure. While high-capacity, interlocking networks will play an essential part, this advanced infrastructure will be more than fibre, cable, satellite, wireless and other technologies. It will be a vast array of services and information in multiple media – voice, data, image and video – offered to every home, school, library, office, factory and laboratory in the province – and used by active and informed Ontarians who know how to put information to work.

Our Mandate

As a key recommendation, the Advisory Committee urged the establishment of the Council for an Ontario Information Infrastructure. The Council's mission was to sustain the momentum from the Advisory Committee, keep alive the process of codetermination, and champion the campaign for an Ontario information infrastructure.

The Council is headed by Jim Coombs, former president and chief executive officer of SaskTel. Members are drawn from the information technology sector, universities, community services, the investment community, private sector users, labour, First Nations and the government. This knowledgeable group has been assigned several responsibilities:

- provide leadership and bring partners together
- report to government on the outcome of specific initiatives and on progress toward the overall vision

- advise government on a broad range of information policy, information technology and telecommunications matters
- recommend priorities and review applications under the Ontario Network Infrastructure Program and the Sector Partnership Fund's Telecommunications Sector Framework.

The Council wants to underline that, with regard to government financing programs, "we are entirely comfortable with an advisory role. While we take seriously our obligation to offer prudent advice on projects, we believe final responsibility for the allocation of public funds should stay with government itself. Government must remain accountable for the grants awarded, as well as for monitoring the expenditures to ensure that the expected results are achieved."

Structure and Logistics

The Council consists of a chair, two vice-chairs, 13 members and three deputy ministers who are ex-officio members. All serve as individuals, not as representatives of organizations or institutions to which they belong.

To expedite our work, we have established two committees:

1. the executive committee – to oversee all activities
2. the investment committee to conduct detailed assessment of projects seeking government funding.

In the early months, the Council established processes for working together and also approved conflict-of-interest and confidentiality guidelines. In addition, easy-to-follow application procedures were developed for the funding programs.

The Council held its inaugural meeting on May 28, 1993 in Toronto, and met monthly thereafter for a total of 12 sessions in the past year. To foster regional connections, we met in Ottawa in August and in London in October. The former session was hosted by Bell Northern Research and the Ottawa-Carleton Research Institute and the latter by the University of Western Ontario.

The Information Infrastructure Branch of the Ministry of Economic Development and Trade provides staff support for the Council's work.

Catalyzing a New Vision

In the introduction to the Advisory Committee report, chair Don Tapscott stressed that "we in Ontario, and Canada, are at a turning point in our journey to the new information society. We have a choice. We can continue business as usual, and in so doing, fall behind. Or, we can in partnership, set out on a new course."

That was in mid-1992. Two years later, the Council feels it can safely say that Ontario and Canada are making the turn; we are moving in the right direction and at a quicker pace.

Since the issue of the Advisory Committee Report, a profound change has occurred in the overall climate of opinion and level of activity concerning telecommunications. While hardly responsible for the totality of this shift, the Advisory Committee, its subcommittees, other participants and government support staff, provided the catalyst for a new vision. The codetermination process sowed the seeds of new ideas and creative partnerships that are too numerous to count.

Through the Council for an Ontario Information Infrastructure, the process of codetermination is continuing on a long-term basis. Like the Advisory Committee, the Council is serving as a test bed for new ideas and a catalyst for change.

While we do recommend projects for government funding, this activity is a narrow measure of our role. In the past year, we have reviewed more than 45 proposals related to the information highway. Ministry staff who work with us have responded to several hundred inquiries. While delivering the right funding at the right time can be critical, we see the principal task of both Council and staff as stimulating, encouraging, facilitating, advising and providing leadership.

A Great Awakening

We believe that in Ontario and in Canada, a great awakening has begun. The Council and the former Advisory Committee have been at the heart of the action. We have helped to put Ontario on the ramp to the information highway. Now, the province is poised for rapid acceleration.

Changing Dynamics

In fact, the president of Stentor Resource Centre Inc., Wes Scott, stated that as an Advisory Committee member he "learned that there was a large community of interest in the generation as well as transmission of information, but that cost, ease and speed of access were going to be the real determinants of success. These were valuable lessons that helped shape our Beacon Initiative."

The Beacon Initiative is a 10-year, $8.5 billion commitment by the Stentor alliance, including Bell Canada and eight other major telecom companies, to invest in broadband facilities. It is one example of the changing dynamics in the information infrastructure.

Another recent example is the consolidation in the cable television industry, as illustrated by the Rogers purchase of Maclean Hunter. And a third is the move by Canadian telephone, cable and broadcasting companies to launch a national direct-to-home satellite service confronting U.S. competition head on.

The emerging Canadian Network for the Advancement of Research, Industry and Education (CANARIE) is designed to maintain Canada's edge in information technologies and use it to help other sectors innovate. A non-profit corporation known as CANARIE Inc. has been established with some 120 public and private sector members working to help speed the development of a national backbone network and related applications.

In addition to the investment by Canadian telecom companies in new and expanded networks, a further boost to business competitiveness has come from the cable TV industry, which has been deploying fibre-optic technology to deliver data services. For example, Rogers Network Services has installed fibre optic systems to serve large business and institutional users in the Greater Toronto Area.

Strengthening the Economy

Throughout the economy, businesses and public sector organizations are discovering the value of information technology as a strategic tool for becoming and remaining competitive. Computer literacy is moving up the organization as managers and executives operate on line. Sixteen Ontario hospitals are introducing electronic purchasing to increase efficiency. Across the board, the capacity of information technology to revitalize the way we do business is a key to Ontario's economic renewal.

Higher Profile

The public profile of the information highway has heightened – whether the measure is column-inches of press coverage, the frequency of speeches, or TV news clips. The Council senses that the public's view of the information infrastructure is becoming more sophisticated. People increasingly realize that much more is involved than telephones and televisions – and that no one has a monopoly on information or the systems that deliver it.

We considered the conferences, *Powering Up North America* and *Racing Toward the Millennium*, held this year in Toronto to be breakthrough events in raising public consciousness. In all, more than 1,000 delegates and 150 media representatives attended the gatherings organized by the Information Technology Association of Canada and the Canadian Advanced Technology Association.

Federal Initiatives

We are heartened by the federal government's appointment this spring of a 30-member Information Highway Advisory Council. This group has a mandate to develop a consensus on a strategy for Canada's information highway based on three objectives:

1. create jobs through innovation and investment
2. reinforce Canadian sovereignty and cultural identity
3. ensure universal access at reasonable cost.

The Ontario Council regards the federal body as a strong sign that the implications of the information age will finally receive serious consideration at the national level. It is high time we brought Canadian policy, regulation and law into phase with the dizzying rate of change.

A positive step in this direction was the decision to include communications networks in the federal job creation initiative. The recognition that the telecommunications system is a fundamental part of Canada's social and economic infrastructure is welcome.

Convergence Accelerating

In examining proposed freenets, research and education networks and other exciting projects, the Council has witnessed first-hand the momentum now behind the construction of the information highway and its on-ramps. Scanning the overall environment, it is clear that technologies are converging and applications are developing at an even faster rate of speed than the former Advisory Committee anticipated.

We are on the threshold of multimedia networks that will provide Canadians with access to voice, interactive full motion video and data services. One terminal may combine the functions of the telephone, the television and the computer – with all signals arriving through a single line. And not only information but cultural content will be available in electronic form.

However, despite the progress of the past two years, the sense of urgency conveyed by the Advisory Committee report is undiminished. As the chair of the Council, Jim Coombs, puts it, "Ontario must move aggressively to secure a position in the information age, or we will lose more than global economic opportunities. Our quality of life will also fall into relative decline."

Highlights of Council Activities

Ontario Network Infrastructure Program (ONIP):
Enabling Economic Growth and Enhancing the Quality of Life

The Advisory Committee called for a multitude of specialized information networks or pathways in Ontario. It also proposed to knit these pathways together into a "network of networks".

As a direct response, the government introduced the Ontario Network Infrastructure Program (ONIP) to develop user-based and user-driven information networks. ONIP has been allocated $100 million over four years from the government's **jobsOntario** *Capital* initiative.

By fostering information networks across the province by a variety of groups – from industry and research to health care and not-for-profit agencies – ONIP changes both the way we do things and the things we do. The program is designed to expand access to an advanced information infrastructure throughout Ontario, speed the development of high-capacity interconnecting networks, and accelerate the creation and introduction of new applications and services.

With this infrastructure in place, more businesses will be able to get closer to their suppliers and customers by placing and filling orders electronically. Social services will improve through innovations like long distance education and electronic access to health care records. Routine tasks like shopping, renewing a driver's license or booking a hotel will become more convenient.

ONIP offers two types of assistance: grants for feasibility studies and business plans (up to 75 per cent of eligible costs to a maximum grant of $75,000) and funds to implement networks and services (up to 50 per cent of eligible costs for up to three years).

To make it as easy as possible to deal with us, we have introduced a two-step review of submissions. First, the applicant files a short Notice of Intent. This is assessed to ensure that the program's objectives and criteria are met. If eligible, we then invite the applicant to prepare a full application.

Two Council members – members of the investment committee – have been considering the Council's role with respect to Network standards. As a result, we have decided that one of the factors to be weighed in assessing applications will be how well the project fosters interoperable networks and open systems architecture. The Council and ministry staff will also advise applicants where to obtain information on standards.

ONIP Statistics

In all, 74 projects have been formally submitted for the Council's consideration. The Council has endorsed 15 projects, totalling over $15 million in government funding. Three are awaiting final approval.

In addition, after reviewing Notices of Intent, the Council has encouraged a further 15 proponents to submit applications; 30 other proposals are at various stages of development and evaluation; and 14 have not been recommended.

More important than the quantity of ONIP projects, is their quality. As vice-chair Sheelagh Whittaker underlines, "The concrete projects we have recommended will serve as beta sites or test beds for realization of the strategy, producing concepts and lessons that other people can learn from."

Economic Development in Northern Ontario

One of the first ONIP projects took place in northwestern Ontario, where a feasibility study was conducted on a community economic development strategy enabled by telecommunications. A broadly based group from the region reviewed telecommunications opportunities for Atikokan, Sioux Lookout and three First Nations communities, as the first step towards enhancing the regional information network.

The key finding of the study was that "northwestern Ontario, and indeed all of northern Ontario, required a leading-edge digital communications network, and the tools to develop the skills to use it." The report underlined that the needs of the far north (above Sioux Lookout) are especially urgent.

Many Aboriginal communities in this area still require "plain old telephone service", to say nothing of digital service.

The Wawatay Communications Society is working with several Band councils to improve access to essential telecommunications service in the northwest. An ONIP grant is assisting Wawatay to determine infrastructure needs and options for a number of remote Nishnawbe-Aski Nation communities.

Also in northern Ontario, ONIP is supporting a feasibility study on telecommunications as a force for economic diversification. Five communities in the Elliot Lake area, hit by the announcement of mine closures, have highlighted telecommunications as a potential opportunity. The study will survey the existing infrastructure and determine the changes necessary to support new information-intensive businesses.

Freenets

Another early ONIP grant was awarded to the Ottawa-Carleton area, where volunteers had started up a community network called the National Capital FreeNet. The freenet concept means that access is available to users without charge.

Through ONIP, the province and local Ottawa-Carleton organizations, are sharing the costs of establishing and operating the network over three years. The provincial commitment totals $140,000.

The National Capital FreeNet offers 24-hour one-window access to information on government, community and recreational services. It also allows interaction between participating organizations, offers electronic mail for registered users and makes possible electronic discussion groups. More than 500 social service agencies and community groups have expressed interest in putting their information online to the public through the network. Membership has grown from under 1,000 to 16,000 in 12 months.

The Council believes the National Capital FreeNet provides an excellent model for other localities. We were pleased to recommend a similar project getting under way in Toronto, which promises to become one of Canada's largest community networks.

Toronto FreeNet Inc. will receive ONIP funding of $485,000 over a three year period. The goal of the project is to "bring the community of Metro Toronto together by offering electronic communication connections to as many information providers...as is possible."

The Toronto FreeNet will enable local organizations to share a single, cost-effective, interactive computer network offering one-stop shopping for people seeking information on public and community services. It will also offer electronic mail and links to other networks. The system will tie together hundreds of different services and should eventually attract upwards of 50,000 users.

Building the Ontario Research and Education Network

As an integral part of the "network of networks," the Advisory Committee envisaged an Ontario Research and Education Network (OREN). The Council received an in-depth consulting report exploring the OREN concept. The authors suggested that OREN should be "a shared network of facilities, services, and people, providing access to a full range of learning and research opportunities to promote economic development, lifelong learning and equity for the citizens of Ontario."

In short, OREN would link the many diverse communities of interest in the research and education fields. In this context, we note that the Ministry of Education and Training (MET) is working on an open learning framework for education and training.

The Council heard a presentation on MET's E5000 initiative to connect the ministry and schools across the province. We are encouraged that MET is working closely with the Ministry of Economic Development and Trade to evolve the OREN concept and its components.

To move OREN forward, the Ontario Network Infrastructure Program is supporting the upgrading and expansion of Ontario's existing research and education network, ONet. The government will supply $5 million towards the $10 million costs over a three-year period.

ONet links researchers in universities, colleges, research centres, industry and government. It is part of the national backbone network, CA*net, and is also a gateway to the Internet, the preeminent worldwide research and education network.

In the future, progress in scientific and technical disciplines will depend on interactive access to huge databases of research information. Without a network that enables them to reach and use that information, our researchers and educators will fall behind their counterparts in other countries and the competitive position of our economy will erode.

The upgrading of ONet will allow members to exchange much greater quantities of information, and undertake more sophisticated collaborative research and educational activities. And the added capacity will mean that many new members can join.

We responded to another opportunity to push OREN forward by backing work on a "virtual university" approach by the Ontario Learning and Technology Exchange Consortium (OLTEC). A "virtual university" was described in the Advisory Committee's report as a telecommunications-linked "university without walls" providing specialized training and degree programs in the workplace or at other locations.

With ONIP funding, OLTEC will conduct a feasibility study to help answer questions about the costs and benefits of this approach in Ontario. The consortium

includes 13 organizations from post-secondary education, technology-based industries and information technology companies. The study focuses on the potential of a telecommunications network to deliver continuing education for engineers, scientists and technical staff.

ATM Pilot Projects

A number of other projects are based on the application of the latest technologies. One of the most attractive is the OCRINet – a high-speed fibre-optic network joining Ottawa-Carleton's leading high-tech companies, academic institutions and government.

So far, ONIP has supported a feasibility study to develop the concept. OCRINet will enable private and public sector researchers to keep up with advanced technology and begin evolving applications to exploit the large bandwidths available through fibre optics.

The Ottawa-Carleton network will be one of two pilot projects to bring ATM (asynchronous transfer mode) to Ontario. ATM is a leading-edge switching technology that can simultaneously route data, voice and video signals over fibre optic lines at ultra-high speed.

ONIP is backing a second ATM pilot project as well – LARG*net, a high-speed network to connect London medical research and treatment facilities. ONIP is assisting with a business plan for the development of the system. Initially, LARG*net will transfer medical images, including diagnostic information, from one

institution to another. Eventually, it will be used for other educational and research purposes.

The Council has also reviewed applications for the implementation stage of both OCRInet and LARG*net. The government is now considering our recommendations.

Green Network

The vast number of Ontario organizations and residents active in environmental issues will soon have greatly expanded access to information and data on this subject. ONIP is providing $1.26 million over three years to develop the Environmental Inter-Network (EIN), sponsored by the Ontario Environment Network, a non-profit association, and NirvCentre, an electronic networking tools organization.

The project will implement the EIN using existing physical infrastructure, and then develop software to enhance the functioning of the network and give users powerful tools for navigating through and retrieving data. Marketing, promotional and training activities are also planned. The goal is to offer easy and affordable access to on-line information resources on sustainable communities, environmental protection and "green" economic opportunities.

Broadband Field Trial

CulTech Collaborative Research Centre at York University has been awarded ONIP funding to study the feasibility of a large-scale field trial of broadband networks and services. CulTech proposes to manage the trial for a consortium of large and small businesses and academic and cultural institutions known as Intercom Ontario. The partners intend to work together to create and deliver audio, text, visual and moving picture content, packaged into applications designed for interactive use.

The feasibility study will investigate the required hardware, software, content and applications, and prepare a project budget and work plan. If successful, the study could lead to a field trial involving a residential subdivision in Newmarket, a student dormitory, elementary and secondary schools, libraries, museums, three universities and the Ontario Science Centre.

Other Projects

In addition to the above initiatives, the Council has reviewed applications to plan a community network in Muskoka, establish an e-mail network for the not-for-profit sector, and launch a project to improve access to health-record information in Toronto. We have recommended these applications for government support, and formal approvals or project agreements are being finalized.

Government as a Model User

The vision of the provincial government as a model and strategic user of telecommunications and other information technologies has two dimensions. First, government should exploit information technology to reinvent itself by putting a vast array of public information and interactive services on line while boosting operating efficiency. Second, government should use its purchasing power to play a co-operative role with industry in developing new services and applications.

The Council monitors the government's progress toward this vision. We act as a sounding board for government plans, offering advice, counsel and contacts.

We receive regular reports from the Deputy Minister of Management Board Secretariat, an ex-officio Council member, on the government's information technology initiatives. We have also requested Management Board Secretariat to provide a full status report on the implementation of the model user policy adopted by the government. In addition, we have asked the Ministry of Economic Development and Trade to report on its review of the government's purchasing strategies and policies from the vantage point of advancing sector development.

The Council heard a presentation from Bell Canada and Northern Telecom on plans for ISDN (integrated service digital network) deployment in Ontario. Bell was seeking Ontario government support for this technology. The Council commented on the potential costs, benefits and applications.

In general, we believe that while there is still a way to go, the provincial government is making progress toward becoming a model user. Efforts are under way to enable government computer systems to talk to each other, and the government's vision is beginning to reach the officials who actually make the purchasing decisions.

Sector Partnership

The Sector Partnership Fund (SPF) is a six-year, $150 million funding program launched in 1992 under the Ontario government's Industrial Policy Framework. It is designed to strengthen sectors or "clusters" of the Ontario economy by shifting companies and industries to higher value-added activities and improving the sector's overall competitiveness.

Four priorities have been set for funding in the telecommunications sector. In brief, these are:

1. strengthening the underlying foundations of the telecom sector – for example, through training initiatives
2. encouraging strategic alliances of Ontario firms – to develop new products or expand exports
3. fostering new applications – to reduce the time and risk it takes to get a product from the lab to the marketplace
4. developing markets – through trade missions, market research and public education.

The Council has reviewed applications from the telecommunications industry for SPF assistance. Three interesting projects came forward. We encouraged two of these projects to submit full applications, and look forward to reviewing them in the coming year. We have learned that partnerships that benefit the sector as a whole take considerable time and effort to develop.

Future Directions

The Council is continually taking the pulse of external trends to test our relevance. As noted earlier, the convergence of telecommunications, computing, and information content is occurring even faster than expected. This has a number of implications for the Council's future priorities.

Co-ordinating Network Development

Through ONIP, the government supports the creation of information networks. But the basic physical structures -- wireless facilities, cable systems and telecommunications carrier networks – are also a critical part of the information infrastructure.

We need to deepen our understanding of how the Ontario government should try to influence the development of basic networks. What role should the province play in dealing with the private sector, the federal government and federal regulatory authorities?

Relationship with the Sector

A key question is the province's relationship with the telecommunications sector – including carriers, service providers and manufacturers. Part of our mandate as a Council is to foster sectoral partnerships – that is, projects that benefit the sector as whole, or at least a large part of it. Yet, it is clear, that in the present climate the sector is not looking to the Council or the government for this type of encouragement.

We have to ask why. Has the industry become so competitively driven that broadly-based planning activities involving a range of companies are neither feasible nor necessary? Or, is the industry missing a major chance to strengthen its fundamentals through a measure of co-operation?

In the year ahead, the Council intends to reach out to the telecom sector. We want to know if the industry is aware of the opportunities under the Sector Partnership Fund, or if procedures or criteria for accessing the fund could be streamlined. We will ask if the industry is in need of advice on how to build bridges linking several companies. And we will try to determine how to stimulate comprehensive partnerships.

A key task for government is to strengthen the sector by acting as a strategic buyer and model user of telecommunications equipment and services. The Council will continue to monitor government efforts and stay in touch with the initiatives brought before us in the past year. We will seek feedback on our contribution so far, to determine what further assistance to the government we can provide.

Convergence with Computing

Telecommunications has converged with computing to the point where it makes sense to speak of one broader industry – information technology. In Ontario, an Advisory Committee on the Computing Sector has recently completed a strategy to promote computing's growth and development.

The Council for an Ontario Information Infrastructure supports the combining of responsibilities for the provincial telecommunications and computing strategies. We have recommended to the Minister of Economic Development and Trade that a single Council should cover information technology as a whole. This would allow us to seize growth opportunities in each sector while capitalizing on the synergies between the two areas.

Access

As convergence accelerates, Canadian manufacturers, researchers, software developers and consultants are remaining world leaders in their fields, but Canadian regulators and consumers are losing ground.

The Advisory Committee's report on a Telecommunications Strategy for Ontario, called on the Ontario government to advocate a broader definition of basic telecommunications service. This definition would ensure wider access to the latest advances. Specifically, by 1999 basic service should include single party service, access to a basic package of public information services, digital service by choice, 911 service across Ontario and province-wide availability of any new telecom service within seven years of introduction.

These services may have seemed ambitious two years ago, but now appear modest and late. The pace of improvement in digital technologies – both hardware and software – as well as the speed of consumer

acceptance, have been so rapid that our vision of basic service must be updated.

Not that we have realized our original vision. While it is crystal clear, for example, that we need basic digital service available province-wide to keep up with the world, some parts of northern Ontario are still mired in the technology of the 1920s. Yet as we expand multimedia high-capacity networks, it is not apparent how underserviced areas are going to be reached. There is a real risk that existing inequities could be intensified.

The equity question is becoming more urgent because the major players are operating in a more competitive milieu. For example, the falling cost of fibre optic technology has produced a competitive rush by telephone and cable companies to fibre their networks. In this climate, companies are resistant to meeting social objectives, such as delivering services where costs cannot be recovered.

Yet, equity demands that we offer everyone the option of up-to-date communications. It is essential to find ways to expand access in rural and remote areas.

Other Social Issues

The equity issue is but one of the social implications of technology that are beginning to break into public consciousness. As the Advisory Committee stressed, Ontario needs a policy or set of principles to guide the treatment of information that is stored and transmitted electronically. These guidelines should balance the rights of the creator, the right

of access to public information and the right to individual privacy.

Privacy concerns, in particular, are growing. Sophisticated information technologies have the power to draw together vast quantities of data from many different sources. As a result, information may be used in ways that those who provided it never anticipated and do not want.

At the same time, equitable access to the information highway is increasingly viewed as a fundamental aspect of social justice. Geographical barriers to access were mentioned above. Financial barriers must also be avoided. We must keep access affordable so everyone can benefit from advances in technology.

The Council expects to place more emphasis on the relationship between technology and society in the coming months.

Mobilizing Public Support

Finally, we intend to mount a public awareness campaign to support the telecommunications strategy and build understanding of how Ontario's information infrastructure can transform the way we live, work, learn and do business.

This will not be just more info-hype. We have in mind a targeted communications campaign with three objectives:

1. increase public knowledge and awareness of the information infrastructure
2. motivate people to use it
3. give them the skills to do so.

Our goal in all we do is to create action and partnerships in communities, industries and social service sectors to propel Ontario forward into the information society. We feel we have made solid progress in our first year.

Ontario's Information Infrastructure

Key Statistics
(For 1992 – Except As Noted)

REVENUES ($ Millions)		
	Ontario	Canada
Telecom Manufacturing[1]	2,405	3,644
Telecom Services[1]	5,992	16,236
Computer Manufacturing[1]	2,424	3,512
Computer Services[1]	3,524	6,076
Cable TV[2]	750	1,968
Total	**15,095**	**31,436**

EMPLOYMENT		
	Ontario	Canada
Telecom Manufacturing[1]	9,480	22,572
Telecom Services[1]	33,668	107,248
Computer Manufacturing[1]	7,847	12,456
Computer Services[1]	31,432	61,631
Cable TV[2]	3,507	9,112
Total	**85,934**	**213,019**
Estimated technical and professional staff at user operations (not included above)	100,000	N/A

DIGITALIZATION

In Ontario nearly 100% of Bell Canada's long-distance toll trunks and 80% of its local trunks were digitally terminated in 1992. The entire Bell Canada network will essentially be digital in 1994.[3]

100% of the switches of Ontario's independent telephone systems are now digitally terminated.[4]

SOURCES

1   Industry, Science and Technology Canada, Information Technologies Statistical Review, 1993

2   Statistics Canada

3   Bell Canada – 1994 Annual Construction Program

4   Ontario Telephone Association

ACCESS TO SERVICES

Cable TV

Total Subscribers[1]	2,894,645
Penetration[1]	76% of all homes
	81.4% of homes passed

Telephone (Total Network)

Access Lines[1]	5,998,700
Penetration[1]	98.9% of all households

SOURCES

1   Statistics Canada

Status Report On ONIP Projects

PROJECTS APPROVED BY THE GOVERNMENT

PROJECT NAME	DESCRIPTION	STATUS
National Capital FreeNet	Implementation of a community based information network	UNDERWAY
Northwest Ontario Telecommunications Pilot Project	Telecom based local economic development study covering Atikokan, Sioux Lookout and three First Nations Communities	COMPLETED
ONet Networking – Reseau ONet	Ontario's research and education network enhancement	UNDERWAY
LARG*net: London Medical Image Network	Business plan for a broadband network focusing on medical image transfer among London hospitals and research institutes	BUSINESS PLAN COMPLETED
OCRInet	Business plan for a broadband ATM switched network connecting high tech research facilities in the Ottawa area	BUSINESS PLAN COMPLETED
E – Connections	Feasibility study of the viability of linking a number of not-for-profit organizations	PROJECT COMMENCING
Intercom Ontario	Feasibility study for a large scale field trial to demonstrate and develop interactive broadband systems, applications and services over cable and telephone wires	PROJECT COMMENCING
Elliot Lake Economic Diversification Study	An economic development study of the telecommunications infrastructure in Elliot Lake and region	UNDERWAY
Toronto FreeNet Inc.	Implementation of a computerized community information network	UNDERWAY
Wawatay Communications Network Pilot Project Pre-Implementation Strategy	A feasibility study addressing options to address the telecommunications requirements of remote Nishnawbe-Aski Nation communities	UNDERWAY
Muskoka*Net	Business plan to develop a community network in the Muskoka region	UNDERWAY
Ontario Learning and Technology Exchange Consortium (OLTEC)	Feasibility study for a "virtual classroom" focusing on technical training for engineers and technologists	UNDERWAY

PROJECTS RECOMMENDED TO THE GOVERNMENT BY THE COUNCIL

PROJECT NAME	DESCRIPTION	STATUS
LARG*net	Implementation of a medical imaging network in London, Ontario	COUNCIL RECOMMENDED SUPPORT FOR PROJECT.
OCRInet	Implementation of a broadband ATM testbed network connecting high tech research facilities in Ottawa area	COUNCIL RECOMMENDED SUPPORT FOR PROJECT.
Environmental InterNetwork	To establish a network to provide access to environmental information and data in Ontario for the organizations and individuals active in this area	COUNCIL RECOMMENDED SUPPORT FOR PROJECT.

NOTICES REVIEWED/APPLICATIONS ENCOURAGED BY THE COUNCIL

PROJECT NAME	DESCRIPTION	STATUS
Sudbury FreeNet	To establish a freeNet in Sudbury and Region, linking to the Internet	ENCOURAGED TO SUBMIT AN APPLICATION.
"Performing Arts Box-Office"	To study the feasibility of setting up a reservation and information system for small performing arts venues in the Metro Toronto Region	ENCOURAGED TO SUBMIT AN APPLICATION.
Timmins Video Conferencing Proposal	To test the viability of establishing video conferencing facilities for the Timmins area	ENCOURAGED TO RETURN WITH DETAILED APPLICATION.
Community Planning Network	Network to link more than 50 community groups to communicate and provide access to data bases	ENCOURAGED TO SUBMIT AN APPLICATION.
Homenet	Business plan for a community information network accessible by individuals, community organizations and government offices in Huron, Oxford, Middlesex, Elgin and Perth communities	ENCOURAGED TO SUBMIT AN APPLICATION.
Halinet	Community based information network for Halton and Peel Regions	ENCOURAGED TO SUBMIT AN APPLICATION.
BlissNet (CMC)	Evaluate the feasibility of a BlissNet Resource Service serving as a network	ENCOURAGED TO SUBMIT AN APPLICATION.
Durham Free-Net Inc.	To provide all members of the Durham region with access to public information	ENCOURAGED TO SUBMIT AN APPLICATION.
Windsor Regional Free Access Network	Facilitate the development of a self sustaining and decentralized computer communication network	ENCOURAGED TO SUBMIT AN APPLICATION.
Waterloo County Board of Education	Implementation of a telecommunications network for the board region serving schools,teachers and students	ENCOURAGED TO SUBMIT AN APPLICATION.
EDnet – Educational Network	To network seven schools and the University of Toronto with high-speed connections so they can share skills and content	ENCOURAGED TO SUBMIT AN APPLICATION.

NOTICES REVIEWED/APPLICATIONS ENCOURAGED BY THE COUNCIL

Continued from previous page

PROJECT NAME	DESCRIPTION	STATUS
First Nation ANISH Network	Establish a network serving First Nation ANISH communities	ENCOURAGED TO REVISE THEIR APPLICATION.
Toronto Health Network (THN)	To implement a network to link, initially, seven hospitals in the Toronto area to provide access by doctors and other care delivers to patient information in critical care situations	ENCOURAGED TO SUBMIT AN APPLICATION.
Social Planning Council Multilingual Service	Study feasibility of access to information services and networks for equity seeking organizations	ENCOURAGED TO REVISE THEIR APPLICATION.
The Educational Network of Ontario (Ontario Teachers Federation)	Network all Ontario teachers	ENCOURAGED TO REVISE THEIR APPLICATION.

NOTICES OF INTENT/APPLICATIONS NOT RECOMMENDED BY THE COUNCIL

Fourteen "notices" and applications were not recommended because they did not meet program objectives